



- [illegible]

~~Sub
a1~~

1 7. The method according to claim 1 wherein the monitoring step comprises the
2 substeps of:

3 measuring a number of observations of different propagational delays
4 within a measurement range during an uplink transmission of the subscriber
5 station;

6 measuring a number of antenna observations of receive signals, of the
7 uplink transmission, detected on each distinct uplink antenna of a base station;

8 incrementing antenna set counters and counter bins associated with the
9 corresponding observations in a first histogram of propagational delays and in a
10 second histogram of antenna observations, respectively, to form the operational
11 composite fingerprint for comparison to the characteristic composite fingerprint.

1 8. The method according to claim 7 wherein the monitoring step further comprises
2 the substep of normalizing the first and second histograms.

1 9. The method according to claim 7 wherein the monitoring step further includes
2 the substeps of:

3 determining a reference range about a central propagational delay factor
4 associated with a corresponding strongest reverse channel signal strength for the
5 subscriber station for propagational delays observed at a beginning of the uplink
6 transmission; and

7 establishing a smaller component counter and a larger component counter
8 to track measured propagational delays that fall outside of a reference range to
9 form the operational composite fingerprint for comparison to the characteristic
10 composite fingerprint.

1 10. The method according to claim 7 further comprising making the observations
2 based upon signal characteristics of mature finger assignments.

1 11. The method according to claim 7 further comprising attaining the observations
2 from a signal searcher.

12. The method according to claim 1 wherein the comparing step further comprises determining if a first histogram of measured propagational delay factors fall within a propagational delay mask.

13. The method according to claim 12 wherein the comparing step further comprises determining if a second histogram of measured observations of antenna sets falls within an antenna mask.

14. The method according to claim 1 wherein the comparing step further comprises determining that the subscriber station is most likely operating within the authorized area if a first histogram of measured propagational delay factors falls within a propagational delay mask and if a second histogram of measured observations of antenna sets falls within an antenna mask.

15. The method according to claim 1 wherein the comparing step further comprises determining that the subscriber station is operating in the restricted coverage area if a first histogram of measured propagational delay factors falls outside of a range defined by a propagational delay mask or if a second histogram of measured observations of antenna sets falls outside of a range defined by an antenna mask.

16. The method according to claim 1 wherein the comparing step further comprises determining that the subscriber station is most likely operating within the authorized area if a first statistical representation of measured observations falls within an antenna mask and if a second statistical representation does not exceed a maximum outside prominent characteristic of measured observations of propagational delays.

17. The method according to claim 1 wherein the comparing step further comprises determining that the subscriber station is operating in the restricted area if a first statistical representation of measured propagational delay factors falls outside of a range defined by a propagational delay mask or if a second

1 18. A system for monitoring whether a subscriber station is operating in an
2 authorized area, the system comprising:

5 a processor for comparing the operational composite fingerprint to a
6 characteristic composite fingerprint to determine if the subscriber station is
7 operating within the authorized area.

1 20. The system according to claim 18 wherein the monitor comprises an antenna
2 monitor for monitoring the number of temporally offset receive signals, originating
3 from a transmission of the subscriber station, incident upon each distinct uplink
4 antenna set of a base station.

21. The system according to claim 18 wherein the monitor comprises a
propagational delay measurer for measuring the propagational delays of
temporally offset receive signals originating from a transmission of the subscriber
station.

1 22. The system according to claim 18 wherein the characteristic composite
2 fingerprint includes a first histogram of observations of propagational delays
3 associated with a reverse link transmission of the subscriber station from the
4 authorized area.

1 23. The system according to claim 22 wherein the characteristic composite
2 fingerprint includes a second histogram of antenna observations per antenna or

Sub
a1

[illegible]

Sub
all

	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100